

TOWNSHIP

Village of Oxford - Allocated and Voted Millage Rates

2006

Unit Millage		County Millage		School Millage	
Purpose	Amount	Purpose	Amount	Purpose	Amount
		Operating	4.1900	ISD - Gen. Ed.	2003
P - Operating	0.9500	Parks & Rec.	0.2415	ISD - Spec. Ed.	5456
P - ALS	1.0000	H.C.M.A.	0.2146	ISD - Voc. Ed.	6231
P - Fire/EMS	1.5000			Comm. College	5844
P - Library	1.3982			SET	0000
P - Parks & Rec.	0.8538			Oxford SD - Oper.	10000
P - Fire Debt	0.8800			Oxford SD - Debt	0000
P - Library Debt	0.4100				
Total:	6.9920	Total:	4.6461	Total:	359534

2005

Unit Millage		County Millage		School Millage	
Purpose	Amount	Purpose	Amount	Purpose	Amount
		Operating	4.1900	ISD - Gen. Ed.	2003
P - Operating	0.9500	Parks & Rec.	0.2415	ISD - Spec. Ed.	5456
P - ALS	1.0000	H.C.M.A.	0.2146	ISD - Voc. Ed.	6231
P - Fire/EMS	1.5000			CC - Operating	5844
P - Library	1.3982			SET	0000
P - Parks & Rec.	0.8538			Oxford SD - Oper.	10000
P - Fire Debt	0.9800			Oxford SD - Debt	0000
P - Library Debt	0.4500				
Total:	7.1320	Total:	4.6461	Total:	359534

2004

Unit Millage		County Millage		School Millage	
Purpose	Amount	Purpose	Amount	Purpose	Amount
		Operating	4.1900	ISD - Gen. Ed.	2009
P - Operating	0.9500	Parks & Rec.	0.2422	ISD - Spec. Ed.	5530
P - Library	1.4170	H.C.M.A.	0.2154	ISD - Voc. Ed.	6250
P - Parks & Rec.	0.8653			CC - Operating	5889
P - Fire Debt	1.0400			SET	0000
P - Library Debt	0.4820			Oxford SD - Oper.	15451
				Oxford SD - Debt	0000
Total:	4.7343	Total:	4.6478	Total:	336129

2006 Total:	47.5915
2005 Total:	47.7315
2004 Total:	42.9948

KEY:

P = Township of Oxford

PO = Village of Oxford

ISD = Intermediate School District (Oakland)

CC = Community College (Oakland)

Allocated, as detailed on L-4029

ATTACHMENT 9

Oxford Township and Village			
	Total Number of Businesses	New Businesses	Out of Business Parcels
		(including leasing companies)	(including leasing companies)
2004	955	104	79
2005	898	66	123
2006	991	93	148
2007	947	100	109

***Please note:

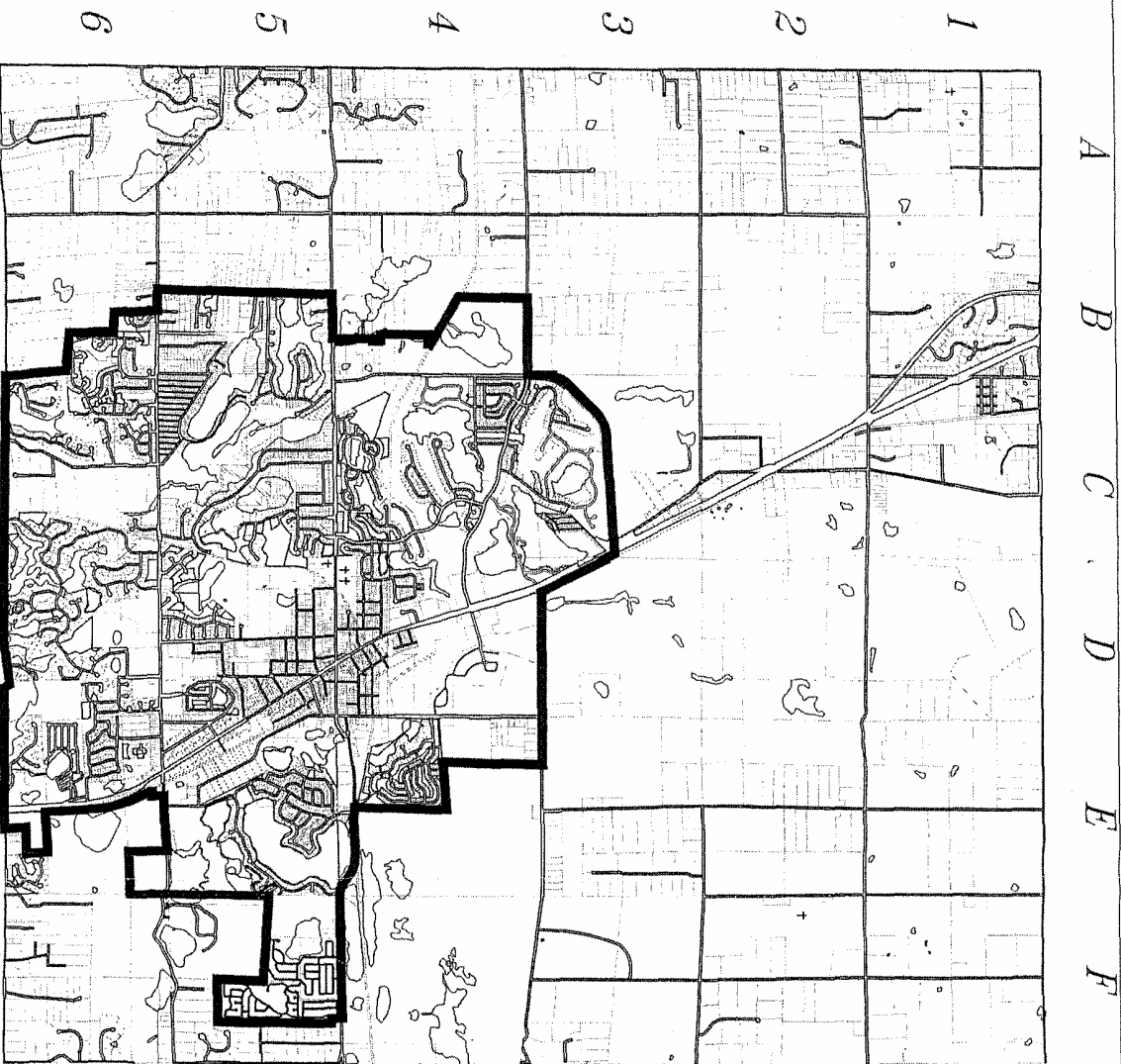
These are estimates and cannot be considered perfectly true and accurate.

OXFORD TOWNSHIP
WATER DISTRICT MAP
OAKLAND COUNTY, MICHIGAN



OXFORD PUBLIC LIBRARY
530 PONTIAC
OXFORD, MI 48371
248-528-3034


DANIELAND CO. SHERIFF
SUBS 248-999-3077
REPORTS 248-858-4350

[illegible][illegible]

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X		Y	
1. NAME		1. NAME	
1	WILLIAM H. BROWN	1	WILLIAM H. BROWN
2	JOHN D. SMITH	2	JOHN D. SMITH
3	CHARLES E. JONES	3	CHARLES E. JONES
4	EDWARD G. WHITE	4	EDWARD G. WHITE
5	WILLIAM F. BLACK	5	WILLIAM F. BLACK
6	JOHN A. GREEN	6	JOHN A. GREEN
7	CHARLES B. BROWN	7	CHARLES B. BROWN
8	EDWARD C. WHITE	8	EDWARD C. WHITE
9	WILLIAM D. BLACK	9	WILLIAM D. BLACK
10	JOHN E. GREEN	10	JOHN E. GREEN
11	CHARLES F. BROWN	11	CHARLES F. BROWN
12	EDWARD H. WHITE	12	EDWARD H. WHITE
13	WILLIAM I. BLACK	13	WILLIAM I. BLACK
14	JOHN J. GREEN	14	JOHN J. GREEN
15	CHARLES K. BROWN	15	CHARLES K. BROWN
16	EDWARD L. WHITE	16	EDWARD L. WHITE
17	WILLIAM M. BLACK	17	WILLIAM M. BLACK
18	JOHN N. GREEN	18	JOHN N. GREEN
19	CHARLES O. BROWN	19	CHARLES O. BROWN
20	EDWARD P. WHITE	20	EDWARD P. WHITE
21	WILLIAM Q. BLACK	21	WILLIAM Q. BLACK
22	JOHN R. GREEN	22	JOHN R. GREEN
23	CHARLES S. BROWN	23	CHARLES S. BROWN
24	EDWARD T. WHITE	24	EDWARD T. WHITE
25	WILLIAM U. BLACK	25	WILLIAM U. BLACK
26	JOHN V. GREEN	26	JOHN V. GREEN
27	CHARLES W. BROWN	27	CHARLES W. BROWN
28	EDWARD X. WHITE	28	EDWARD X. WHITE
29	WILLIAM Y. BLACK	29	WILLIAM Y. BLACK
30	JOHN Z. GREEN	30	JOHN Z. GREEN
31	CHARLES AA. BROWN	31	CHARLES AA. BROWN
32	EDWARD BB. WHITE	32	EDWARD BB. WHITE
33	WILLIAM CC. BLACK	33	WILLIAM CC. BLACK
34	JOHN DD. GREEN	34	JOHN DD. GREEN
35	CHARLES EE. BROWN	35	CHARLES EE. BROWN
36	EDWARD FF. WHITE	36	EDWARD FF. WHITE
37	WILLIAM GG. BLACK	37	WILLIAM GG. BLACK
38	JOHN HH. GREEN	38	JOHN HH. GREEN
39	CHARLES II. BROWN	39	CHARLES II. BROWN
40	EDWARD JJ. WHITE	40	EDWARD JJ. WHITE
41	WILLIAM KK. BLACK	41	WILLIAM KK. BLACK
42	JOHN LL. GREEN	42	JOHN LL. GREEN
43	CHARLES MM. BROWN	43	CHARLES MM. BROWN
44	EDWARD NN. WHITE	44	EDWARD NN. WHITE
45	WILLIAM OO. BLACK	45	WILLIAM OO. BLACK
46	JOHN PP. GREEN	46	JOHN PP. GREEN
47	CHARLES QQ. BROWN	47	CHARLES QQ. BROWN
48	EDWARD RR. WHITE	48	EDWARD RR. WHITE
49	WILLIAM SS. BLACK	49	WILLIAM SS. BLACK
50	JOHN TT. GREEN	50	JOHN TT. GREEN
51	CHARLES UU. BROWN	51	CHARLES UU. BROWN
52	EDWARD VV. WHITE	52	EDWARD VV. WHITE
53	WILLIAM WW. BLACK	53	WILLIAM WW. BLACK
54	JOHN XX. GREEN	54	JOHN XX. GREEN
55	CHARLES YY. BROWN	55	CHARLES YY. BROWN
56	EDWARD ZZ. WHITE	56	EDWARD ZZ. WHITE
57	WILLIAM AA. BLACK	57	WILLIAM AA. BLACK
58	JOHN BB. GREEN	58	JOHN BB. GREEN
59	CHARLES CC. BROWN	59	CHARLES CC. BROWN
60	EDWARD DD. WHITE	60	EDWARD DD. WHITE
61	WILLIAM EE. BLACK	61	WILLIAM EE. BLACK
62	JOHN FF. GREEN	62	JOHN FF. GREEN
63	CHARLES GG. BROWN	63	CHARLES GG. BROWN
64	EDWARD HH. WHITE	64	EDWARD HH. WHITE
65	WILLIAM II. BLACK	65	WILLIAM II. BLACK
66	JOHN JJ. GREEN	66	JOHN JJ. GREEN
67	CHARLES KK. BROWN	67	CHARLES KK. BROWN
68	EDWARD LL. WHITE	68	EDWARD LL. WHITE
69	WILLIAM MM. BLACK	69	WILLIAM MM. BLACK
70	JOHN NN. GREEN	70	JOHN NN. GREEN
71	CHARLES OO. BROWN	71	CHARLES OO. BROWN
72	EDWARD PP. WHITE	72	EDWARD PP. WHITE
73	WILLIAM QQ. BLACK	73	WILLIAM QQ. BLACK
74	JOHN RR. GREEN	74	JOHN RR. GREEN
75	CHARLES SS. BROWN	75	CHARLES SS. BROWN
76	EDWARD TT. WHITE	76	EDWARD TT. WHITE
77	WILLIAM UU. BLACK	77	WILLIAM UU. BLACK
78	JOHN VV. GREEN	78	JOHN VV. GREEN
79	CHARLES WW. BROWN	79	CHARLES WW. BROWN
80	EDWARD XX. WHITE	80	EDWARD XX. WHITE
81	WILLIAM YY. BLACK	81	WILLIAM YY. BLACK
82	JOHN ZZ. GREEN	82	JOHN ZZ. GREEN
83	CHARLES AA. BROWN	83	CHARLES AA. BROWN
84	EDWARD BB. WHITE	84	EDWARD BB. WHITE
85	WILLIAM CC. BLACK	85	WILLIAM CC. BLACK
86	JOHN DD. GREEN	86	JOHN DD. GREEN
87	CHARLES EE. BROWN	87	CHARLES EE. BROWN
88	EDWARD FF. WHITE	88	EDWARD FF. WHITE
89	WILLIAM GG. BLACK	89	WILLIAM GG. BLACK
90	JOHN HH. GREEN	90	JOHN HH. GREEN
91	CHARLES II. BROWN	91	CHARLES II. BROWN
92	EDWARD JJ. WHITE	92	EDWARD JJ. WHITE
93	WILLIAM KK. BLACK	93	WILLIAM KK. BLACK
94	JOHN LL. GREEN	94	JOHN LL. GREEN
95	CHARLES MM. BROWN	95	CHARLES MM. BROWN
96	EDWARD NN. WHITE	96	EDWARD NN. WHITE
97	WILLIAM OO. BLACK	97	WILLIAM OO. BLACK
98	JOHN PP. GREEN	98	JOHN PP. GREEN
99	CHARLES QQ. BROWN	99	CHARLES QQ. BROWN
100	EDWARD RR. WHITE	100	EDWARD RR. WHITE

LEGEND	
+	SECRET
X	SECRET
- NO SECRET	





LEGEND

⊕ - CEMENTARY

⌘ - PAVES

■ - 200725 DISTRICT

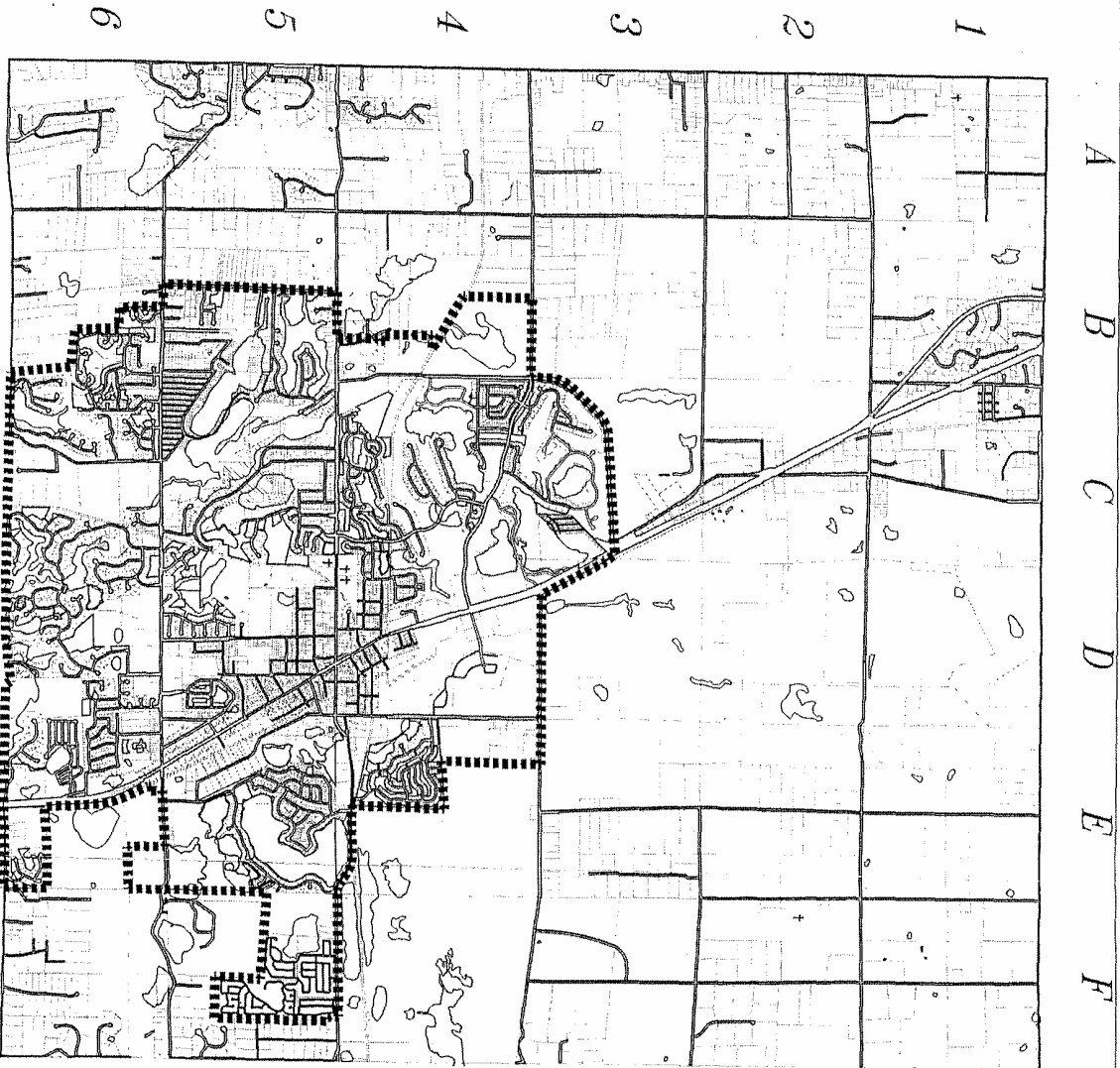
P.O. OFFICE
 22 W. BROAD ST.
 DARTMOUTH, NH 05820
 248-568-2543

DARTMOUTH VILLAGE OFFICE
 22 W. BROAD ST.
 DARTMOUTH, NH 05820
 248-568-2543

DARTMOUTH POLICE DEPT.
 248-628-2531
 EMERGENCY - 911

NON-EMERGENCY
 DARTMOUTH FIRE
 628-6522

OAKLAND CO. SHERIFF
 245-6257
 REPORTS 245-6258-4950

[illegible][illegible][illegible][illegible]

ATTACHMENT 12

\$10,700,000
COUNTY OF OAKLAND, MICHIGAN
OAKLAND COUNTY OXFORD TOWNSHIP
WATER SUPPLY SYSTEM BONDS, SERIES 2005

Final Schedule of Principal & Interest Requirements

Payment Date	Principal Due	Interest Rate	Interest Due	Total Payment	Fiscal Year Total
4/1/06			\$223,535.00 [1]	\$223,535.00 ✓	
10/1/06			223,535.00	223,535.00 ✓	\$447,070.00 ✓
4/1/07			223,535.00	223,535.00 ✓	
10/1/07	\$250,000.00	3.500%	223,535.00	473,535.00 ✓	697,070.00 ✓
4/1/08			219,160.00	219,160.00	
10/1/08	260,000.00	3.500%	219,160.00	479,160.00	698,320.00
4/1/09			214,610.00	214,610.00	
10/1/09	270,000.00	3.500%	214,610.00	484,610.00	699,220.00
4/1/10			209,885.00	209,885.00	
10/1/10	285,000.00	3.500%	209,885.00	494,885.00	704,770.00
4/1/11			204,897.50	204,897.50	
10/1/11	300,000.00	3.750%	204,897.50	504,897.50	709,795.00
4/1/12			199,272.50	199,272.50	
10/1/12	315,000.00	3.750%	199,272.50	514,272.50	713,545.00
4/1/13			193,366.25	193,366.25	
10/1/13	330,000.00	4.000%	193,366.25	523,366.25	716,732.50
4/1/14			186,766.25	186,766.25	
10/1/14	345,000.00	4.000%	186,766.25	531,766.25	718,532.50
4/1/15			179,866.25	179,866.25	
10/1/15	360,000.00	4.000%	179,866.25	539,866.25	719,732.50
4/1/16			172,666.25	172,666.25	
10/1/16	375,000.00	4.000%	172,666.25	547,666.25	720,332.50
4/1/17			165,166.25	165,166.25	
10/1/17	395,000.00	4.000%	165,166.25	560,166.25	725,332.50
4/1/18			157,266.25	157,266.25	
10/1/18	415,000.00	4.000%	157,266.25	572,266.25	729,532.50
4/1/19			148,966.25	148,966.25	
10/1/19	435,000.00	4.100%	148,966.25	583,966.25	732,932.50
4/1/20			140,048.75	140,048.75	
10/1/20	455,000.00	4.125%	140,048.75	595,048.75	735,097.50
4/1/21			130,664.38	130,664.38	
10/1/21	475,000.00	4.250%	130,664.38	605,664.38	736,328.75
4/1/22			120,570.63	120,570.63	
10/1/22	500,000.00	4.300%	120,570.63	620,570.63	741,141.25
4/1/23			109,820.63	109,820.63	
10/1/23	520,000.00	4.300%	109,820.63	629,820.63	739,641.25
4/1/24			98,640.63	98,640.63	
10/1/24	545,000.00	4.375%	98,640.63	643,640.63	742,281.25
4/1/25			86,718.75	86,718.75	
10/1/25	570,000.00	4.375%	86,718.75	656,718.75	743,437.50
4/1/26			74,250.00	74,250.00	
10/1/26	600,000.00	4.500%	74,250.00	674,250.00	748,500.00
4/1/27			60,750.00	60,750.00	
10/1/27	630,000.00	4.500%	60,750.00	690,750.00	751,500.00
4/1/28			46,575.00	46,575.00	
10/1/28	660,000.00	4.500%	46,575.00	706,575.00	753,150.00
4/1/29			31,725.00	31,725.00	
10/1/29	690,000.00	4.500%	31,725.00	721,725.00	753,450.00
4/1/30			16,200.00	16,200.00	
10/1/30	720,000.00	4.500%	16,200.00	736,200.00	752,400.00
4/1/31			0.00	0.00	
	<u>\$10,700,000.00</u>		<u>\$7,229,845.00</u>	<u>\$17,929,845.00</u>	<u>\$17,929,845.00</u>

through OCLC retained earnings

PURCHASER: Citigroup Global Markets Inc.
TRANSFER AGENT: Huntington National Bank
TRUE INTEREST COST: 4.37908%
SALE DATE: 10/6/05
DATED DATE: 10/1/05
DELIVERY DATE: 10/20/05
[1] INCLUDES ACCRUED INTEREST: \$23,595.36

Note: The above table does not reflect charges for bond registrar and paying agent services.

Stauder, Barch & Associates, Inc.
3989 Research Park Drive
Ann Arbor, Michigan 48108
Phone (734) 668-6688 Fax (734) 668-6723

PRS
Aug-29-06

ATTACHMENT 13

1-19-96

As Bid

\$4,240,000

CHARTER TOWNSHIP OF OXFORD COUNTY OAKLAND, STATE OF MICHIGAN 1996 LIBRARY BUILDING AND SITE BONDS (GENERAL OBLIGATION - UNLIMITED TAX)

Schedule of Estimated Millage Needed to Retire Bonded Debt

F/Y	Existing Debt	Principal Due	Int. Rate	Interest Due	Interest Due	Total	Total	7.50% Allowance for Delinquency	Net Existing & Proposed Debt	Projected Assessed Valuation [2]	Growth Rate	Millage Needed All
Year 8-30	\$0	May 1		May 1	Nov 1	PAI		\$0				Debt
1995 1996	0	25,000	0.00%	106,720	106,895	237,615	237,615	17,821	255,436	330,877,747	8.16%	0.00
1996 1997	0	55,000	6.60%	105,895	104,080	264,975	264,975	0	264,975	343,461,597	3.80%	0.77
1997 1998	0	70,000	6.60%	104,080	101,770	275,850	275,850	0	275,850	356,529,263	3.81%	0.77
1998 1999	0	85,000	6.60%	101,770	98,965	285,735	285,735	0	285,735	370,099,512	3.81%	0.77
1999 2000	0	105,000	6.60%	98,965	95,500	299,465	299,465	0	299,465	381,202,497	3.00%	0.79
2000 2001	0	120,000	6.60%	95,500	91,540	307,040	307,040	0	307,040	392,638,572	3.00%	0.78
2001 2002	0	135,000	6.60%	91,540	87,085	313,625	313,625	0	313,625	404,417,729	3.00%	0.78
2002 2003	0	155,000	6.60%	87,085	81,970	324,055	324,055	0	324,055	416,550,261	3.00%	0.78
2003 2004	0	170,000	6.60%	81,970	76,360	328,330	328,330	0	328,330	429,046,769	3.00%	0.77
2004 2005	0	190,000	4.60%	76,360	71,990	338,350	338,350	0	338,350	441,918,172	3.00%	0.77
2005 2006	0	210,000	4.60%	71,990	67,160	349,150	349,150	0	349,150	455,175,717	3.00%	0.77
2006 2007	0	235,000	4.60%	67,160	61,765	363,915	363,915	0	363,915	468,830,988	3.00%	0.78
2007 2008	0	260,000	4.60%	61,765	55,775	377,530	377,530	0	377,530	482,895,918	3.00%	0.78
2008 2009	0	285,000	4.60%	55,775	49,220	389,995	389,995	0	389,995	497,382,796	3.00%	0.78
2009 2010	0	310,000	4.60%	49,220	42,080	401,310	401,310	0	401,310	512,304,279	3.00%	0.78
2010 2011	0	335,000	4.60%	42,080	34,385	415,475	415,475	0	415,475	527,673,408	3.00%	0.78
2011 2012	0	355,000	4.60%	34,385	26,220	418,615	418,615	0	418,615	543,503,610	3.00%	0.76
2012 2013	0	375,000	4.60%	26,220	17,685	406,450	406,450	0	406,450	559,808,718	3.00%	0.75
2013 2014	0	385,000	4.60%	17,685	8,855	393,855	393,855	0	393,855	576,602,980	3.00%	0.70
2014 2015	0	0	0.00%	8,855	0	0	0	0	0	593,901,059	3.00%	0.66
2015 2016	0	0	0.00%	0	0	0	0	0	0	611,718,101	3.00%	0.00
2016 2017	0	0	0.00%	0	0	0	0	0	0	630,069,844	3.00%	0.00
2017 2018	0	0	0.00%	0	0	0	0	0	0	648,971,734	3.00%	0.00
2018 2019	0	0	0.00%	0	0	0	0	0	0	668,440,886	3.00%	0.00
2019 2020	0	0	0.00%	0	0	0	0	0	0	688,494,112	3.00%	0.00
2020 2021	0	0	0.00%	0	0	0	0	0	0	709,146,936	3.00%	0.00
2021 2022	0	0	0.00%	0	0	0	0	0	0	730,423,404	3.00%	0.00
2022 2023	0	0	0.00%	0	0	0	0	0	0	752,336,106	3.00%	0.00
2023 2024	0	0	0.00%	0	0	0	0	0	0	774,806,189	3.00%	0.00
2024 2025	0	0	0.00%	0	0	0	0	0	0	798,153,375	3.00%	0.00
2025 2026	0	0	0.00%	0	0	0	0	0	0			
	\$0	\$4,240,000		\$1,384,930	\$1,420,503	\$7,045,433	\$7,045,433	\$17,821	\$6,920,961			

Dated:	1-Mar-96
Bond Term:	20 yrs, 2 mos
Debt/SEV:	1.39%
Proposed Levy	0.79
Current Levy	0.00
Net Increase	0.79

Ad Valorem S.E.V. Growth History	
1990	\$199,613,300
1991	217,799,300
1992	224,319,200
1993	250,367,950
1994	269,313,300
1995	305,918,844
Average Growth =	8.98%

[1] 8 mos interest.
[2] Includes \$0 of Equivalent LFT/CFT Valuations.

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Stauder, BARCH & ASSOCIATES, Inc.

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ATTACHMENT 14

Fire Debt

AS BID 15 YEAR TERM

Using Var. Annual Growth \$7,680,000

CHARTER TOWNSHIP OF OXFORD
COUNTY OAKLAND, STATE OF MICHIGAN
2000 FIRE FACILITY BUILDING AND SITE BONDS
(UNLIMITED TAX GENERAL OBLIGATION)

Amt. of Deprec. Items: \$1,865,000
Amt. Pd. w/ 5.4 Yrs.: \$2,235,000

Dated: 1-Dec-00
Delivery: 1-Dec-00
Bond Term: 14 yrs, 5 mos
Average Life: 8.55
1:5 Ratio: TRUE
[2] Debt/SEV: 2.67%
N.I.C.: 5.01%

1-Dec-00
1995 \$301,352,057
1996 317,642,108
1997 331,175,986
1998 365,987,280
1999 420,915,984
2000 470,593,435

5.41%
4.26%
10.51%
15.01%
11.80%

Schedule of Estimated Millage Needed to Retire Bonded Debt

FY	Existing Debt	Principal Due May 1	Int. Rate	Interest Due May 1	Interest Due Nov 1	Total P&I	Total Existing & Proposed Debt	Capitalized Interest	(Use) of Funds on Hand	Net Existing Debt	Projected Taxable Value [3]	Growth Rate	Needed All
Year 12-31													
2000	\$0	\$270,000	4.625%	\$153,210	\$177,609	\$600,819	\$600,819	\$0	\$41,856	\$642,678	\$472,657,010	11.80%	1.36
2001	0	295,000	4.625%	177,608	170,787	643,396	643,396	0	(6,294)	637,101	505,636,001	7.00%	1.26
2002	0	355,000	4.625%	170,787	162,578	688,364	688,364	0	(13,037)	675,327	535,974,161	6.00%	1.26
2003	0	410,000	4.625%	162,578	153,096	725,674	725,674	0	(22,527)	703,147	562,772,859	5.00%	1.25
2004	0	440,000	4.625%	153,096	142,921	736,018	736,018	0	0	736,018	585,283,784	4.00%	1.26
2005	0	465,000	4.625%	142,921	132,168	740,089	740,089	0	0	740,089	608,695,135	4.00%	1.22
2006	0	490,000	4.625%	132,168	120,837	743,005	743,005	0	0	743,005	633,042,940	4.00%	1.17
2007	0	515,000	4.625%	120,837	108,928	744,764	744,764	0	0	744,764	658,364,658	4.00%	1.13
2008	0	545,000	4.650%	108,928	96,256	750,184	750,184	0	0	750,184	684,699,244	4.00%	1.10
2009	0	575,000	4.750%	96,256	82,600	753,856	753,856	0	0	753,856	712,087,214	4.00%	1.06
2010	0	605,000	4.800%	82,600	68,080	755,680	755,680	0	0	755,680	740,570,703	4.00%	1.02
2011	0	640,000	4.900%	68,080	52,400	760,480	760,480	0	0	760,480	770,193,531	4.00%	0.99
2012	0	675,000	5.000%	52,400	35,525	762,925	762,925	0	0	762,925	801,001,272	4.00%	0.95
2013	0	700,000	5.050%	35,525	17,850	753,375	753,375	0	0	753,375	833,041,323	4.00%	0.90
2014	0	700,000	5.100%	17,850	0	717,850	717,850	0	0	717,850	866,362,976	4.00%	0.83
2015	0	0	0.000%	0	0	0	0	0	0	0	901,017,495	4.00%	
2016	0	0	0.000%	0	0	0	0	0	0	0	937,058,194	4.00%	
2017	0	0	0.000%	0	0	0	0	0	0	0	974,540,522	4.00%	
2018	0	0	0.000%	0	0	0	0	0	0	0	1,013,522,143	4.00%	
2019	0	0	0.000%	0	0	0	0	0	0	0	1,054,063,029	4.00%	
2020	0	0	0.000%	0	0	0	0	0	0	0	1,096,225,550	4.00%	
2021	0	0	0.000%	0	0	0	0	0	0	0	1,140,074,572	4.00%	
2022	0	0	0.000%	0	0	0	0	0	0	0	1,185,677,555	4.00%	
2023	0	0	0.000%	0	0	0	0	0	0	0	1,233,104,657	4.00%	
2024	0	0	0.000%	0	0	0	0	0	0	0	1,282,428,843	4.00%	
2025	0	0	0.000%	0	0	0	0	0	0	0	1,333,725,897	4.00%	
2026	0	0	0.000%	0	0	0	0	0	0	0	1,387,075,037	4.00%	
2027	0	0	0.000%	0	0	0	0	0	0	0	1,442,558,038	4.00%	
2028	0	0	0.000%	0	0	0	0	0	0	0	1,500,260,360	4.00%	
2029	0	0	0.000%	0	0	0	0	0	0	0	1,560,270,774	4.00%	
2030	0	0	0.000%	0	0	0	0	0	0	0	1,622,681,605	4.00%	
2031	0	0	0.000%	0	0	0	0	0	0	0			
	\$0	\$7,680,000		\$1,674,845	\$1,521,634	\$10,876,479	\$10,876,479	\$0	\$0	\$10,876,479			

[1] 5 mos interest.

[2] Includes \$4,882,333 of Existing Gen Oblig. debt.

[3] Includes \$1,963,575 of Equivalent LFT/CFT Valuations less

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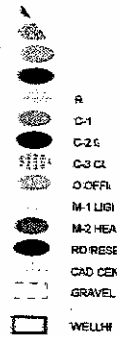
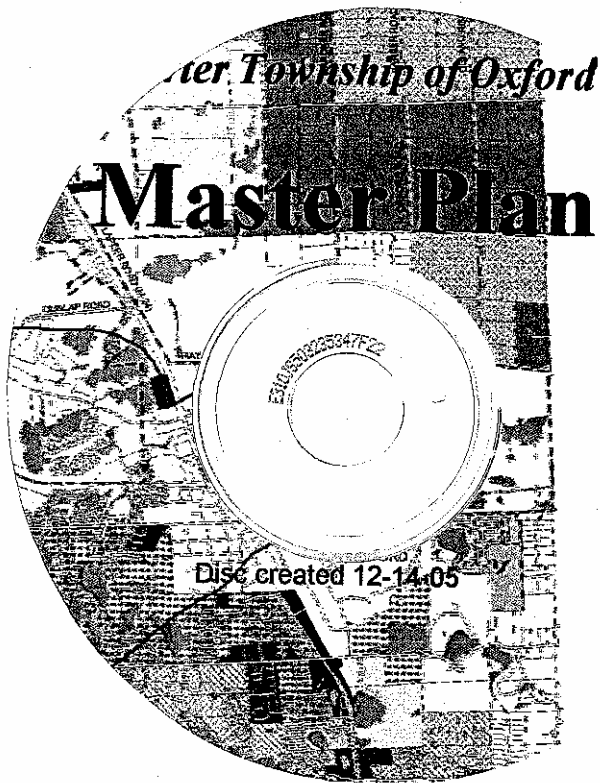
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SB&A Inc.

11/21/00



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 OAKLAND
 OXFORD
 OXFORD
 OXFORD

EXHIBIT 1

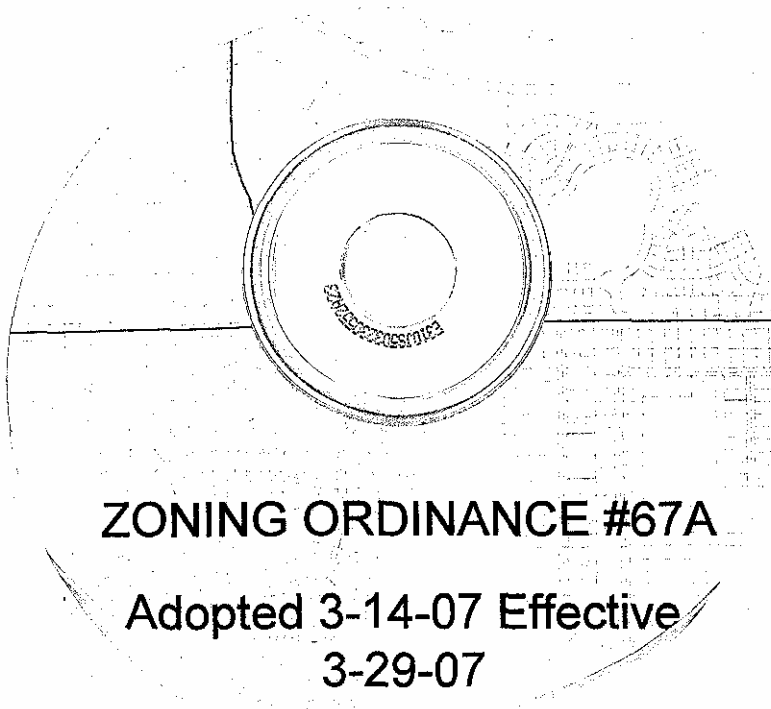


EXHIBIT 1A

EXHIBIT 2

FOR SCANNING PURPOSES, ONLY THE
COVER PAGE AND EXISTING LAYOUT
ARE COPIED

WATER SYSTEM

MASTER PLAN

For

CHARTER TOWNSHIP OF OXFORD OAKLAND COUNTY, MICHIGAN

December 2006

Prepared by:



ROWE INCORPORATED
6211 TAYLOR DRIVE
FLINT, MI 48507

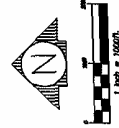


REV: 1
SHEET 1 OF 1
JOB NO. 0502045

PREPARED FOR
OXFORD TOWNSHIP
WATER MODEL
EXISTING LAYOUT

ROWE INCORPORATED
LAKESHORE OFFICE
122 E. Superior St.
Lakewood, MI 48046
Tel: (800) 844-9411 Fax: (980) 772-7170
LAKESHORE OFFICE
122 E. Superior St.
Lakewood, MI 48046
Tel: (800) 844-9411 Fax: (980) 772-7170

PLAN DATE: NOVEMBER 2005
PROJECT NAME: SLP
SHEET: SLP
SCALE: 1"=100'
DRAWN BY: DMC
CHECKED BY: DMC



- LEGEND**
- 6" WATERMAIN
 - 8" WATERMAIN
 - 12" WATERMAIN
 - 16" WATERMAIN
 - WATER DISTRICT BOUNDARY
 - BOOSTER STATION
 - WELL HOUSE
 - WATER TOWER

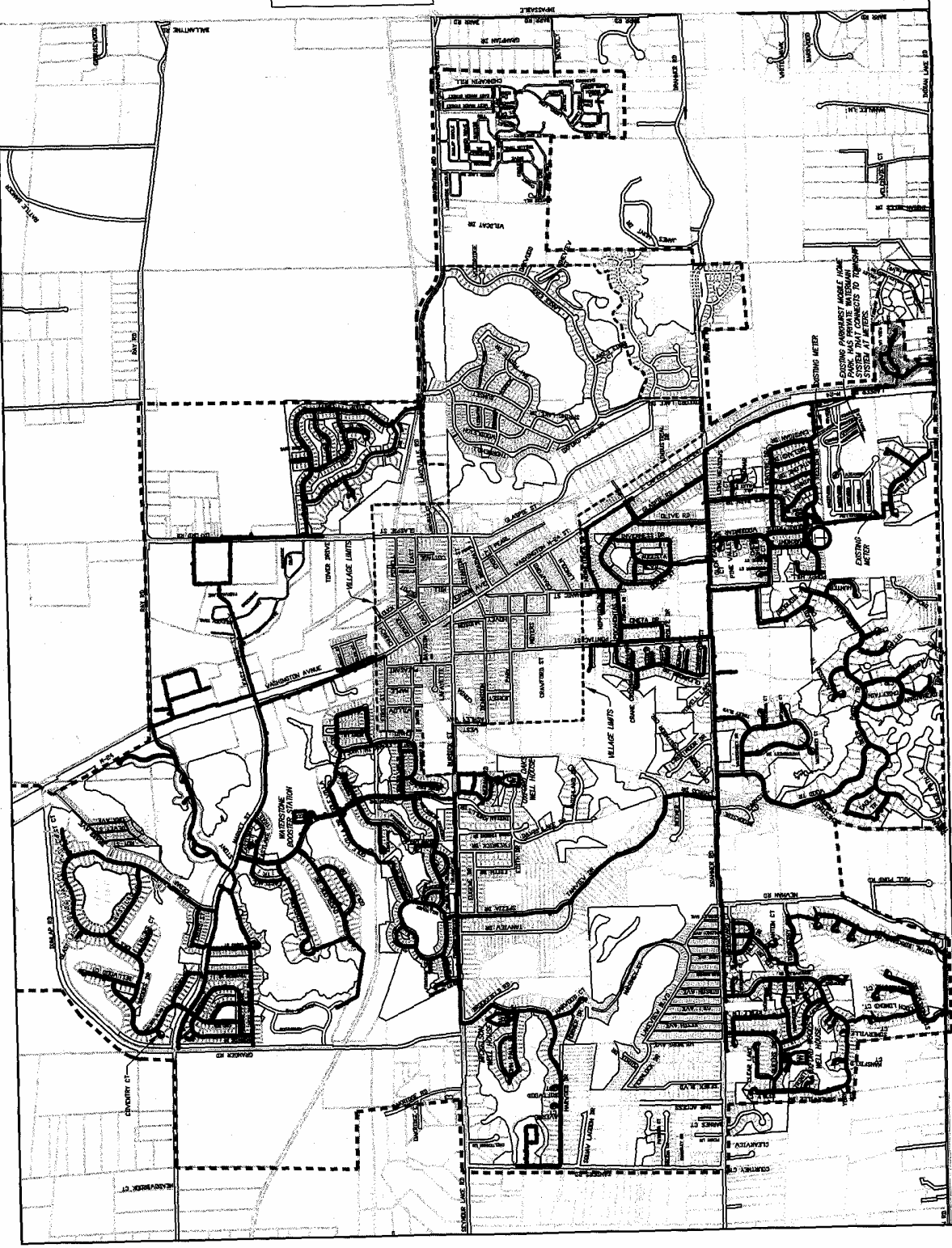


EXHIBIT 3-1

**FOR SCANNING PURPOSES, THIS PLAN IS
LIMITED TO THE FOLLOWING EXCERPTS:**

Cover Page

Index

Pages that contain highlighted text

Recommendations and Analysis

SANITARY SEWER

MASTER PLAN

for

**CHARTER TOWNSHIP OF OXFORD
OAKLAND COUNTY, MICHIGAN**

July, 1999

Prepared by:

ROWE INCORPORATED

6211 TAYLOR DRIVE

FLINT, MI 48507

Table of Contents

EXECUTIVE SUMMARY	1
INTRODUCTION	1
EXISTING CONDITIONS	1
FUTURE CONDITIONS	3
RECOMMENDATIONS	4
BACKGROUND	1.1
Land Use and Zoning	1.2
Drainage Basins	1.4
Population	1.4
SCOPE OF THE MASTER PLAN	1.5
Interceptor Sewer Evaluation	1.5
Oxford Trunk Sewers	1.5
Review Land Use & Zoning District Maps	1.5
Sewer Extensions	1.5
Approach to the Master Plan Development	1.5
 CHAPTER 2 - EXISTING SYSTEM	 2.1
SERVICE AREA	2.1
EXISTING CONTRACTS AND AGREEMENTS	2.3
PURCHASED CAPACITY	2.5
EXISTING CAPACITY ALLOCATION	2.6
SANITARY SEWER CAPACITIES	2.9
SANITARY SEWAGE PUMPING STATIONS	2.10
FLOW METERS	2.11
FLOW RECORDS AT FIVE SEWAGE METERING STATIONS	2.11
EXISTING SYSTEM ANALYSIS BY DESIGN POINT	2.13
District #1	2.18
District #2	2.20
District #3	2.21
District #4	2.22
District #5	2.23
District #6	2.24
District #7	2.25
District #8	2.25
EXISTING FLOWS BY DESIGN POINT	2.27

CHAPTER 3 - FUTURE CONDITIONS	3.1
FUTURE GROWTH FACTORS	3.1
District #1	3.1
District #2	3.3
District #3	3.5
District #4	3.5
District #5	3.6
District #6	3.8
District #7	3.10
District #8	3.12
FUTURE FLOWS BY DESIGN POINT	3.16
CHAPTER 4 - RECOMMENDATIONS	4.1
RESULTS OF ANALYSIS	4.1
PAINT CREEK INTERCEPTOR SERVICE AREA	4.3
RECOMMENDATIONS	4.3

List of Tables

TABLE 1-1	Charter Township of Oxford - 1995 Land Use	1.1
TABLE 1-2	Existing Mobile Home Parks in Service Area	1.2
TABLE 1-3	High Growth Population & Housing Units in Oxford Township	1.4
TABLE 2-1	Number of REU's available w/Changing Persons per Household	2.8
TABLE 2-2	Units Available Based on Average Persons/Household Oxford Village (Based on 0.4 cfs/1000 people)	2.8
TABLE 2-3	Minimum Carrying Capacities of Sanitary Sewers in Oxford Township	2.9
TABLE 2-4	Existing Oxford Township Sewage Pumping Stations	2.10
TABLE 2-5	Average Daily Flows	2.13
TABLE 2-6	Sanitary Sewage Flow by Municipality Using Average Daily Flows	2.13
TABLE 2-7	Sanitary Sewer System Sub-Districts and Design Points	2.18
TABLE 2-8	Western District - Existing Estimated Sanitary Sewage Flows	2.19
TABLE 2-9	Central District - Existing Estimated Sanitary Sewage Flows	2.21
TABLE 2-10	Village 18" Interceptor	2.23
TABLE 2-11	East District - Existing Estimated Sanitary Sewage Flows	2.25
TABLE 2-12	27" Paint Creek Interceptor District Existing Estimated Sanitary Sewage Flows	2.25
TABLE 2-13	Sanitary Sewer System Design Flows West District	2.28
TABLE 2-14	Sanitary Sewer System Design Flows Central: Chirco/Tanview District	2.29
TABLE 2-15	Sanitary Sewer System Design Flows Oxford Village / 27" Interceptor	2.30

TABLE 2-16		
	Sanitary Sewer System Design Flows	
	East District/Lake Villa Extension	2.30
TABLE 2-17		
	Sanitary Sewer System Design Flows	
	Paint Creek Interceptor	2.31
TABLE 3-1		
	Western District - Existing Estimated Sanitary Sewage Flows	3.2
TABLE 3-2		
	Central District - Existing Estimated Sanitary Sewage Flows	3.4
TABLE 3-3		
	Village 18" Interceptor	3.7
TABLE 3-4		
	East District - Existing Estimated Sanitary Sewage Flows	3.9
TABLE 3-5		
	Waterstone Analysis	3.12
TABLE 3-6		
	27" Paint Creek Interceptor District	
	Existing Estimated Sanitary Sewage Flows	3.14
TABLE 3-7		
	Sanitary Sewer System Design Flows	
	West District	3.17
TABLE 3-8		
	Sanitary Sewer System Design Flows	
	Chirco Tanview District	3.19
TABLE 3-9		
	Sanitary Sewer System Design Flows	
	Oxford Village / 27" Interceptor	3.20
TABLE 3-10		
	Sanitary Sewer System Design Flows	
	East District/Lake Villa Extension	3.21
TABLE 3-11		
	Sanitary Sewer System Design Flows	
	Paint Creek Interceptor	3.22

List of Exhibits

EXHIBIT 1-1	
Present and Proposed Sanitary Sewer Service Area	1.3
EXHIBIT 2-1	
Existing Sanitary Sewer System	2.2
EXHIBIT 2-2	
1997 SEMCOG Tract Census	2.7
EXHIBIT 2-3	
Sewage Meter Locations	2.12
EXHIBIT 2-4	
Previous and Existing Sanitary Sewer District Boundaries	2.14
EXHIBIT 2-5	
Eight Sanitary Sewer Subdistricts	2.16
EXHIBIT 2-6	
New & Future Developments by Plat Name	2.17
EXHIBIT 3-1	
Waterstone Development Plans	3.11
EXHIBIT 4-1	
Recommended Sanitary Sewer Expansion Area	4.2

EXECUTIVE SUMMARY

INTRODUCTION

The Township of Oxford is located in the northeastern portion of Oakland County. It contains approximately 32.6 square miles and surrounds the Village of Oxford. Routes M-24 and I-75 are the main arteries that link Oxford Township with the Southern portion of Oakland County, the Detroit Metropolitan area, and the Greater Flint area.

In response to the rapid residential growth in the sanitary sewer service area and the potential for increased development from the proposed Waterstone Project, the Township Board authorized the preparation of this Master Plan to provide an analysis of existing capacity and proposed future developments.

EXISTING CONDITIONS

All sanitary sewage from Oxford Township flows into the 27" Paint Creek Interceptor and then into the Clinton-Oakland Interceptor. Oxford Township has purchased 6.73 cubic feet per second (cfs) of capacity in this outlet sanitary sewer. The purchased capacity would service a population of no more than 16,825 residents at 0.4 cfs/1000 population in the 27" outlet system. The 1997 census for the entire Township of Oxford, excluding Oxford Village is 10,606 residents. All sanitary sewers connecting to the 27" outlet system must be designed using MDEQ, City of Detroit sewer requirements and Oakland County Drain Commissioner's standard requirements for flow and pipe capacity.

The 27" Paint Creek interceptor enters Oxford Township near M-24 and proceeds Northwesterly to Drahner Road and then West along Drahner to the abandoned Grand Trunk Western Railroad line in the NE 1/4 of Section 33. This 27" system has been designed and approved by Oakland County to handle the flows generated by Oxford Township and Oxford Village. There is an 18" interceptor to service the Village of Oxford that begins at the 27" outlet at Red Barn Drive and proceeds northerly to Drahner, north on Olive and then to the Village to serve two separate sub areas for the Village. Local improvement projects have extended this 27" and 18" outlet sewer.

The service area for this 27" interceptor is the populated areas of Oxford Township that surround Oxford Village. Oxford Village has purchased 3.2 cubic feet per second capacity or service for 8,000 people in the Paint Creek interceptor. The 1995 population of Oxford Village was 3050.

The 27" outlet sewer has a capacity of 11.59 cubic feet per second. The outlet is adequate to accommodate the 9.93 cfs capacity purchased by the two municipalities. The Township currently has 1216 residential equivalent units (REU's) connected directly to the 27" interceptor and 5 sub areas that also contribute to the sewage flow. The 18" outlet sewer for the Village at a slope of

0.16% has a capacity of 4.2 cfs. This outlet interceptor will handle the Village purchased capacity of 3.2 cfs and the 510 units, or 1.0 cfs, of capacity previously sold to Oxford Township.

As of April 1, 1998 Oxford Township had used 2,614 REU's of capacity. Growth in the Township is now over 200 new units per year and with the beginning of the development of the Waterstone project it is anticipated to increase to over 300 units per year.

In addition to the capacity purchased in the 27" outlet sanitary sewer, Oxford Township, in 1979, purchased 510 additional units from Oxford Village by two contracts. Both of these contracts were for extensions along or near M-24, North of Oxford Village. The contracts are not specific as to whether the purchase of 510 units included purchased capacity in the 27" Paint Creek Interceptor. For this report we will assume the conservative position that the purchased capacity was for transporting Oxford Township sanitary sewage through the Village of Oxford and using the Township capacity in the Paint Creek interceptor.

It is important to note that the purchased capacity of 6.73 cfs in the outlet system is the critical factor for when Oxford Township can no longer consider sanitary sewer expansion. All new system extensions are required by Oakland County and Michigan Department of Environmental Quality to be designed using a factor of 3.2 persons per residence. In reality, SEMCOG's April 1999 Community Profile for Oxford Township indicates that the current estimate of people per residence is approximately 2.88 and the expected size for the year 2000 is estimated to be 2.9. This indicates that the number of residential equivalent units that can be connected to the system is a variable that must be evaluated with care and engineering expertise as Oxford Township approaches its purchased capacity of 6.73 cfs. Flow monitoring of the system at its time of evaluation will be a critical factor in plan approval.

The capacities of the five sub areas were investigated to determine if there was sufficient hydraulic carrying capacity in each outlet sanitary sewer to support the proposed development of the sub areas. These results are summarized as follows:

1. 27" Paint Creek Interceptor — This main outlet has capacity for 11.59 cfs. The purchased capacity for Oxford Village and Oxford Township is 9.93 cfs.
2. 15" East District/Lake Villa Extension — This sanitary sewer has the capacity to handle 2.80 cfs or 1740 REU's. Proposed development of this sub area would have a sanitary sewer loading of 1530 REU's. Of this 1530 REU's, 196 REU's are not presently within the zoning ordinance sewer district.
3. Oxford Village 18" Interceptor — This 18" interceptor which services the Village of Oxford has an average slope of 0.14% and a capacity of 4.2 cfs. Using purchased capacity of the Village of 3.2 cfs and the Township capacity of 1.0 cfs, the system can hydraulically handle the flow. The 510 REU's that the Village has previously sold to the Township is included in sewage flowing in the dual 18" interceptor from the two village service areas. The current

average day use for Oxford Village as determined from one year of records at the two sewage metering points is 0.6 cfs.

4. Central Interceptor 18" and 15" on Chirco and Tanview — The 18" interceptor will handle 3.6 cfs and the 15" will handle 2.715 cfs using minimum pipe slopes. The proposed development of this area including the Waterstone Development that would be outletted to this sub area is 1853 REUs. The 15" at minimum pipe slope will handle 1687 REU's and the 18" will handle 2371 REUs.
5. 18" Interceptor Serving the Western Portion of the Service Area — The 18" interceptor has a capacity of 3.6 cfs. The existing development in this area produces 2.09 cfs. The 18" has the potential for additional development but is limited to the outlet capacity the township has acquired.

FUTURE CONDITIONS

The Township has reviewed and approved development projects that could account for additional REU's in the service area. Oxford Township must be aware that the limit imposed by the purchased capacity of 6.73 cfs flow must be incorporated into the plan review before development of the potential units can be approved.

Future growth and development in Oxford Township will be significantly affected by several factors, including:

- Supply of Developable Vacant Land
Much of the land, for which sanitary sewers and public water supply are available, is currently developed. The development of the Waterstone project, north of Seymour Road near M-24 will be the main core of development for the next seven to eight years. As surface mining activities on the Koenig property, north of Lakeville Road is completed, this area holds potential for future development. This property is not currently in the sanitary sewer service area.
- Growth Attitudes
Oxford Township has given qualified approval to most developments within the area served by sanitary sewers. The rural northern part of Oxford Township is expected to remain in larger parcels. Through progressive planning an urban limit secondary service area industrial district is developing along M-24 north of Dunlap Road.
- Freeway and State Trunk Lines
The main access road which links Oxford Township with the rest of Oakland County and Lapeer to the north is M-24. This is a north/south road that connects with I-75 in Auburn Hills to the south and connects with I-69 (east/west) to the north. There are no interstate highways in the Township boundaries so access is relatively limited.

- *Proximity to Major Economic Activity Centers*

Another factor that may have a negative impact on future growth and development in Oxford Township is the fact that it is over five miles to the nearest major center of economic activity being Rochester Hills/Auburn Hills area.

RECOMMENDATIONS

This report has shown some deficiencies in the Oxford Township Sanitary Sewer System. The following items deserve additional attention by the Township Board.

1. Oxford Township should attempt to acquire a minimum of 2.38 cfs from communities that are a party to the original capacity allocation. A legal determination should be made as to whether or not the 1979 purchase from Oxford Village included capacity in the Paint Creek interceptor. Additional units to provide a surplus for sanitary sewer expansion for Oxford Township should also be explored and purchased if Oxford Village or any other community to the agreement is willing to sell REU's. The Township original purchase price for one cfs including principal and interest is \$202,982, therefore $[(2.38 \text{ cfs})(\$202,983) = \$483,100]$.
2. Prior to full utilization of the 10" sanitary sewer extending north from the Village of Oxford along M-24, which consists of 430 units, the Township should construct a metering facility at the common border to be consistent with all other areas where sanitary sewage flows between communities.
3. As additional development beyond the purchased capacity of 6.73 cfs is submitted for review and approval by the Township Board, the Board should consider increasing their connection charges to offset the cost of purchasing additional capacity. A detailed cost analysis should be undertaken and a separate study approved.
4. The service area, as established by ordinance #26, should be amended by using the zoning map to correspond with the analysis of this report.
5. The Township Board must stay alert to any alterations to peak capacities in the Paint Creek Interceptor and should the issue resurface, Oxford Township should attempt to acquire peak capacities in direct relationship to purchased capacities. Oxford Township should review any proposed contract with J. Sweetland and J. Porter (OCDC) and determine the potential affect on Oxford Township.
6. The Township should construct the outlet sanitary sewer from N. Oxford Road to Lake Villa Mobile Home Park. This project has been estimated to cost \$615,000 and will be financed with the sewer fund.
7. The Township engineer should attend the meetings of the sewer and water sub-committee to provide technical advice to the members.

8. The Township should revise the Oakland County defined service area of the Paint Creek interceptor to include the industrial area along North M-24 north of Dunlap Road. There are approximately 100 REUs in this district.
9. The Township should request that Oakland County Drain Commissioner supply the data from sanitary sewer flow meters on a quarterly year basis for review by the Township Engineer. There are currently five metering points with one additional recommended. This will allow for an analysis of potential inflow/infiltration problems and will be invaluable as the Township nears its purchased capacity. As the peak flow from Oxford Township approaches the purchased capacity of 6.73 cfs the Township must monitor all development very closely.
10. The Township should carefully review the charges for connection to the public sanitary sewers. It is anticipated that the fees should be increased to provide a source of revenue for large maintenance projects and for future capital improvement projects.
11. The Township should institute a Capitol Improvement Program (C.I.P.) as flows at meter #2600 approach the purchased capacity. This program would continually evaluate pipe capacity as well as the infiltration/inflow in the various interceptors in order to identify areas in need of improvements as development within the Township continues to grow.

CHAPTER 1 - INTRODUCTION

BACKGROUND

The Township of Oxford is located in the northeastern portion of Oakland County. It contains approximately 32.6 square miles and surrounds the Village of Oxford. Routes M-24 and I-75 are the main arteries that link Oxford Township with the southern portion of Oakland County, the Detroit Metropolitan area, and the Greater Flint area. I-69?

The most recent land use information was collected from the Southeastern Municipal Council of Governments (SEMCOG). The 1995 land use survey indicated that the Township included approximately 20891.6 acres. Table 1-1 shows the land use distribution for Oxford Township.

Table 1-1 Charter Township of Oxford - 1995 Land Use		
Land Type	Acres	Percent
Barren and Extractive	2045.8	10%
Commercial and Office	70.3	0.3%
Cultivated Land	5542.2	26.5%
Industrial	211	1%
Institutional	114.6	0.5%
Multiple Family Residential	20.7	0.1%
Single Family Residential	2611.9	12.5%
Transportation, Communication and Utilities	92.6	0.4%
Water	352.2	1.7%
Woodlands, Shrub, Grassland and Wetlands	9830.3	47%
Total	20891.6	100%

SEMCOG estimates the current population of Oxford Township is approximately 12,421 people. This population already exceeds the projected population for the year 2000 by 1250 people.

Through agreements with Oakland County, the Township has purchased a capacity of 6.73 cfs in the Paint Creek Interceptor to provide service to a maximum of 16,825 people. As of April 1998, Oxford Township had 2614 units (8365 people) connected to the sanitary sewer system.

In response to the rapid residential growth in the sanitary sewer service area and the potential for increased development from the proposed Waterstone Project, the Township Board authorized the

preparation of this Master Plan to provide an analysis of existing capacity and proposed future developments.

Land Use and Zoning

Information collected from the Southeastern Michigan Council of Governments (SEMCOG) estimates the current population for Oxford Township is approximately 12,421 people. Exhibit 1-1 is a zoning map for the Charter Township of Oxford as developed by the Township planning consultant, Birchler/Arroyo & Associates, in 1997. The present and proposed sanitary sewer service area has been superimposed on the zoning map in Exhibit 1-1. The zoning within the service area includes a variety of zoning districts with the exception of Suburban Farms (SF-1), Suburban Estates (SE), and Agricultural (AG).

The bulk of the sewer service area is residential in nature with a majority in the R-1 & R-2 zoning classification. The R-1 and R-2 classification is for single family residential development. The R-1 zoning requires a minimum lot area of 12,000 square foot and the R-2 zoning requires a minimum lot area of 25,000 square foot. Areas which are zoned multiple family (RM) will allow a concentration of six people per acre.

There are three mobile home parks within the sanitary sewer service area. Table 1-2 identifies the existing mobile home parks, the number of homes per park and the associated number of Residential Equivalent Units (REU's).

Table 1-2		
Existing Mobile Home Parks in Service Area		
Park Name	Total Homes	REU's/Twp. Record
Parkhurst Mobile Home Park	308 sites	184.8
Lake Villa Mobile Home Park	405 sites	243
Oxford Manor Mobile Home Park	98 sites	58.8
TOTAL	811 sites	486.6

In addition to the existing mobile home parks, the Township has rezoned a portion of Section 25 in order to allow a southward development from the Lake Villa Mobile Home Park. Phase II of the Oxford Manor Mobile Home Park would add an additional 353 sites to the park.

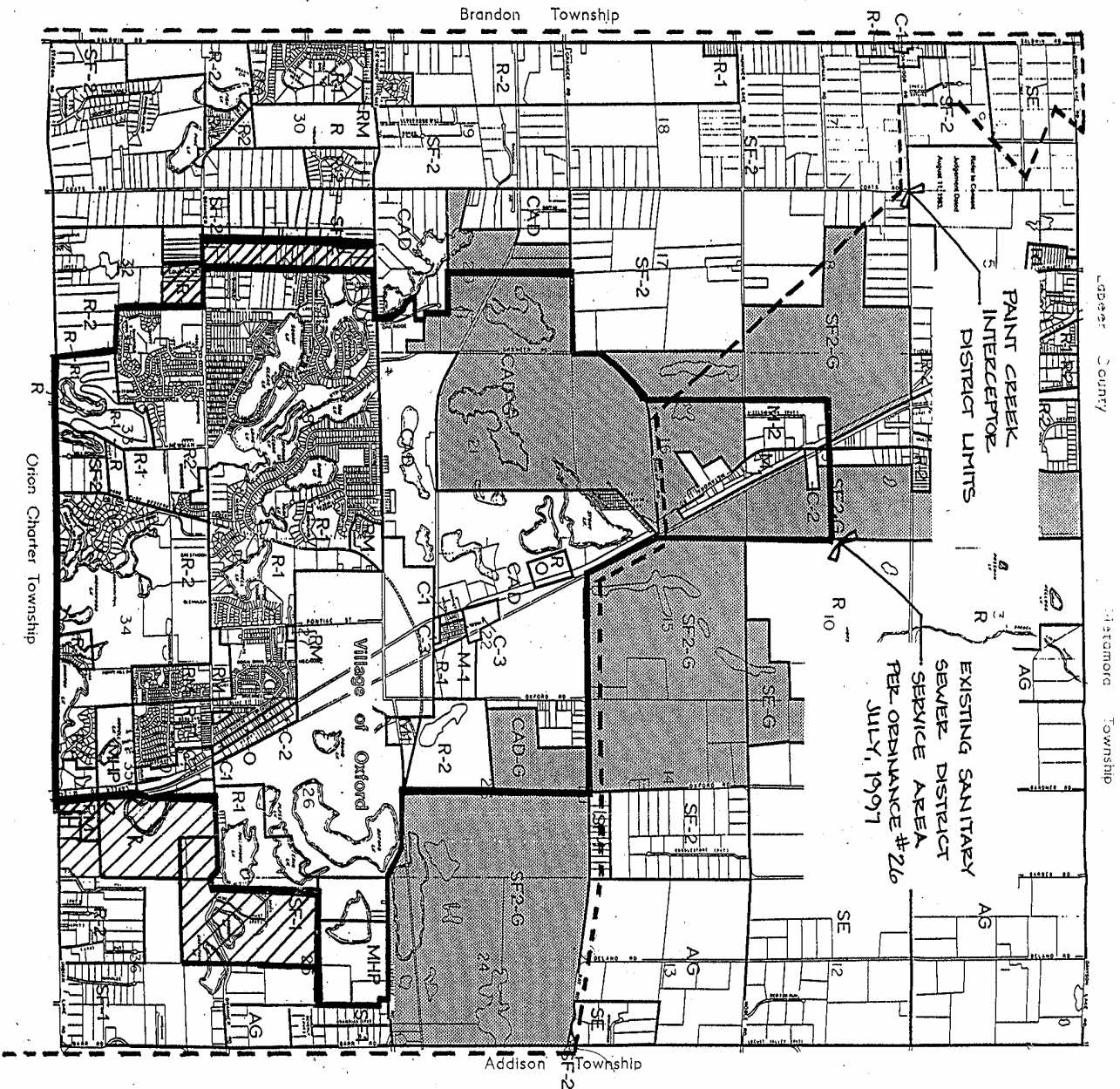


EXHIBIT 1-1 PRESENT & PROPOSED SANITARY SEWER SERVICE AREA

ZONING DISTRICTS	Minimum Lot Size
(R-1) ONE FAMILY	12,000 sq ft
(R-2) ONE FAMILY With Sewer	25,000 sq ft
(SF-1) SUBURBAN FARMS Without Sewer	1 acre
(SF-2) SUBURBAN FARMS	25 acres
(SE) SUBURBAN ESTATES	5 acres
(RM) MULTIPLE - FAMILY	10 acres
(MH) MOBILE HOME PARK	see sec. 21c
(AG) AGRICULTURAL	5 acres
(G) GRAVEL & SAND OVERLAY	20 acres
(R) RECREATION	20 acres
(C-1) LOCAL BUSINESS	10,000 sq ft
(C-2) GENERAL BUSINESS	1 acre
(C-3) COMMERCIAL DEVELOPMENT	5 acres
(O) OFFICE	10,000 sq ft
(M1) LIGHT INDUSTRIAL	20,000 sq ft
(M2) HEAVY INDUSTRIAL	90,000 sq ft
(RO) RESEARCH - OFFICE	1 acre
(C4D) CENTRAL AREA DEVELOPMENT	
(RECOMMENDED SANITARY SEWER SERVICE AREA)	

ZONING DISTRICTS MAP

OXFORD TOWNSHIP
OAKLAND COUNTY, MICHIGAN
OXFORD TOWNSHIP PLANNING COMMISSION



PREPARED BY
MICHAEL BAKER
CORPORATION, INC.

Drainage Basins

Oxford Township straddles the boundary of two major watersheds. The storm water drainage district, which defines the natural ground slope, indicates that the northerly ½ of the Township is within the Flint River drainage basin and that the southern portions are drained to the Clinton River. This is consistent with the sanitary sewer service area hereinafter referred to as the service area. The majority of the Township's development is within the Clinton River drainage basin.

The topography of the service area is rolling and hilly with an abundance of lakes and wetlands. State Law mandates that wetlands be preserved as development occurs. The abundance of lakes and wetlands will limit the amount of growth that will occur within the service area.

Population

Oxford Township is still considered a rural community and had a 1990 population for the entire township of 9,004 persons. This was an increase of 1,181 persons over the 1980 census population. The average number of persons per household, in 1990, was 2.92. SEMCOG currently estimates that the Township population is 12,421 people with an average of 2.88 persons per household.

The sanitary sewer district comprises approximately 20% of the Township area. However, the bulk of the present Township population is within the sewer district. The area bounded by Seymour Lake Road on the north, Sanders Road on the west, M-24 on the east and the Township limit on the south continue to occupy the major areas of present development. Growth patterns show major areas of development and population concentrations to be located north and slightly east of existing developed areas. The Waterstone development will have a tremendous impact on the future growth of Oxford Township. Table 1-3 shows the projected population for Oxford Township through the year 2020.

Table 1-3					
High Growth Population & Housing Units in Oxford Township*					
	1980	1990	2000	2010	2020
Population	7,823	9,004	11,171	12,922	14,720
Number of Households	2,475	3,082	3,815	4,493	5,185
SEMCOG 90 (population /household)	3.16	2.92	2.90	2.85	2.82
<i>* Based on SEMCOG Community Profile dated April, 1999</i>					

SCOPE OF THE MASTER PLAN

The scope of this master plan was developed through conversations with the Township Supervisor and the sewer committee. Input was also received from the Oakland County Drain Commissioner's staff. The scope of this study include the following tasks:

Interceptor Sewer Evaluation

This study will conduct an analysis of connections to the existing 27" Paint Creek Interceptor sewer system to determine existing flow conditions and available capacities for the service area within Oxford Township.

Oxford Trunk Sewers

This study will determine the available capacity at designated design points throughout the existing Oxford Township sanitary sewer system, identify the various sub-districts within the system, and determine the existing and proposed development within each sub-district.

Review Land Use & Zoning District Maps

This study will review the land use and zoning maps for Oxford Township to identify type of growth and the areas in which the growth is anticipated. The master plan for the Central Area District will also be used in determining the areas and type of anticipated growth.

Sewer Extensions

Once the areas of anticipated growth are established, this study will determine the most feasible locations for sanitary sewer extensions. The appropriate sizing and cost estimate for each proposed extension will also be provided.

Approach to the Master Plan Development

Rowe Incorporated will evaluate the existing infrastructure based on the existing and projected development within the service area. Committee review and input will be incorporated throughout the development process. The final product will be presented for final review and acceptance by the Township Board of Trustees.

CHAPTER 2 - EXISTING SYSTEM

All sanitary sewage from Oxford Township flows into the 27" Paint Creek Interceptor and then into the Clinton–Oakland Interceptor. The 27" Paint Creek interceptor enters Oxford Township near M–24 and proceeds Northwesterly to Drahner Road and then West along Drahner to the abandoned Grand Trunk Western Railroad line in the NE 1/4 of Section 33. This 27" system has been designed and approved by Oakland County to handle the flows generated by Oxford Township and Oxford Village. There is an 18" interceptor to service the Village of Oxford that begins at the 27" outlet at Red Barn Drive and proceeds northerly to Drahner, north on Olive and then to the Village to serve two separate sub areas for the Village. Local improvement projects have extended both the 27" and 18" outlet sewer. Exhibit 2-1 identifies the existing sanitary sewer system for Oxford Township.

Sewers range in size from 8-inch diameter to 27-inch diameter. All of the sewers were constructed after 1970 and have premium joints to limit the infiltration of groundwater. All sanitary sewage from Oxford Township flows into the 27-inch Paint Creek Interceptor and then into the Clinton–Oakland Interceptor. All sanitary sewers connecting to the 27-inch outlet system must be designed using MDEQ, City of Detroit sewer requirements and Oakland County Drain Commissioner's standard requirements for flow and pipe capacity.

SERVICE AREA

The service area for this 27" interceptor is the populated areas of Oxford Township that surround Oxford Village. The sanitary sewer service area is defined by sanitary sewer ordinance #26.

The definition as incorporated in this ordinance is as follows: "The area or district is defined as that portion of the Township which is served by sanitary sewers, or has available sanitary sewers for service, or is to be served by sanitary sewers; it does not constitute a representation that Oxford Township will provide sanitary sewers in this area, but rather that Oxford Township will encourage otherwise acceptable development to be serviced by sanitary sewers. The area or district shall be adopted by resolution of the Township Board and included in Appendix B to this ordinance #26."

Rates and charges for using the existing infrastructure are established by this ordinance. These charges are billed quarterly to all customers. The connection to the public sanitary sewer must be completed for all properties that are within 200 feet from the structure to the public sanitary sewer.

The sewer service connection charge is as follows:

- A single family residential premise for which the public sewer was constructed prior to October 23, 1981 shall pay a connection charge of \$1,000.
- All other premises shall be charged a minimum of \$3,500 per unit for the first unit and \$2,500 for each additional unit.
- For a development where the construction of the public lateral is paid for by the developer, the connection fee shall be \$3,500 for the first unit and \$2,500 for each additional residence. This is the most common amount collected as developers have built sanitary extensions into most subdivisions.
- Each unit within a mobile home park shall be charged \$1,875.

Permits are issued by the Oxford Township Building Department and inspected by the building inspector. Connection fees for multiple units are determined at the Township level.

EXISTING CONTRACTS AND AGREEMENTS

Oxford Township and The Village of Oxford have entered into three contractual agreements for sharing sanitary sewer lines. The three agreements are summarized as follows:

Louck Street/Elm Park Subdivision Extension

During 1979, the Township of Oxford entered into a contract with the Village of Oxford to purchase 80 units of sanitary sewer capacity in the existing 8" sanitary sewer lateral on Louck Street. The Township paid the Village \$52,000 for the right to use these Village sanitary sewer laterals. This agreement also required the Township to pay to the Village 3% of the fee collected from users of the system for maintenance of the Village laterals. For the Louck Street/Elm Park area there are 44 lots in the Elm Park Subdivision. Currently, there are 21 residences in the Elm Park Subdivision, a McDonald's restaurant (5.6 units) and three commercial buildings along M-24 north of McDonald's connected to this portion of the system for a total of 30 units. The remaining capacity purchased from the Village amounts to 50 units.

North M-24 Extension

During 1979, the Township of Oxford entered into a contract with the Village of Oxford to purchase 430 units of sanitary sewer capacity from the Village to service the area north of the Village along M-24 with sanitary sewer service.

A combination of developers (Payne, Tuttle, Guy & Pontiac Osteopathic Hospital) desired to have the Township of Oxford extend the sanitary sewer and agreed to defray a portion of the construction cost of the extension. The Township of Oxford received construction proposals for extending a 10" sanitary sewer into the Township a distance of 2,230 feet for a construction cost of \$78,692.60. The 10" main was to be constructed from the Village of Oxford laterals at First Street and extend north to the north limits of the current Mr. B's Roadhouse Restaurant. The project also had additional

expenses to pay for the costs of permitting, engineering design, and construction observation. The total project cost including permitting, engineering design and construction fees amounted to \$89,902.24. This was broken down as follows:

Payne Tuttle, Guy	\$43,305.26
Pontiac Osteopathic Hospital	25,654.09
Oxford Township	<u>20,942.89</u>
	\$89,902.24

The Township agreed by this contract to not charge the developers a lateral benefit charge as defined by the Township Sewer Ordinance No. 26, as amended. The current connections to these sanitary sewer extensions are as follows:

Mr. B's (Long Branch) Roadhouse	23.90 units
Pontiac Osteopathic Hospital	27.50 units
State Farm Insurance (out of business)	<u>1.00 units</u>
	52.40 units

With the agreement for 430 units and a usage of approximately 53 units, the Township of Oxford still maintains a capacity of 377 units in this sanitary sewer.

There is a parcel of property between Mr. B's Roadhouse and the State Farm Insurance building that is being offered for sale and development as well as a parcel between the State Farm Insurance building and the Pontiac Osteopathic Hospital. There is also some additional property between the Hospital and the Village limits that has a potential for development. These parcels are zoned C-3, commercial development. This development has a potential for 40 units. Further North, along M-24 there is a parcel zoned RO. This parcel is more commonly known as the Sea-Ray development. This parcel is within the sanitary sewer district but is currently serviced by an individual septic system. However, should the septic system fail sanitary sewer service should be made available to this parcel. The estimated flow for this development is approximately equal to 15 REU's. Therefore, of the 430 REU's available to this leg of the sanitary sewer, approximately 322 are available for future development by the Waterstone Project. It is recommended that the commercial frontage along M-24 utilize this capacity.

The commercial frontage on the east side of M-24 south of Waterstone should use the Louck/Lincoln capacity up to the 80 allocated units. There are currently 30 units in service. The east side of M-24 C-3 parcel probably will not exceed the capacity remaining in Louck/Lincoln outlet sewer of 50 REUs.

Middle School at Glaspie

The Village, by contract, has agreed to temporarily accept the sanitary sewage from the Middle School on North Oxford Road into the existing Village system along Glaspie Street. This agreement was completed in 1998. As part of the agreement, the Oxford Middle School will be connected to

the Village system until completion of the Lakeville Road sanitary sewer extension. Upon completion of this project, the sanitary sewer from the Middle School will be connected to the Township sewer system and will be completely disconnected from the sanitary sewer system for the Village of Oxford.

PURCHASED CAPACITY

By an agreement dated January 15, 1969, Oxford Township has purchased 23.2% of the capacity in the Paint Creek Interceptor. This agreement would allow Oxford Township to have 6.73 cubic feet per second capacity in the interceptor. The Township's share of financing this system was \$1,366,075.60 which will be paid off by annual payments through the year 2003. This means that the Township still has four years left to pay on this issue with payments of approximately \$65,000 per year (\$61,400 to \$66,500 annually). Based on the cost of financing and the total capacity purchased, the cost per cfs delivered to the outlet sewer would equate to \$202,983.

There is also a population limitation in the purchased capacity agreement for a population of 16,825. The Oakland County Drain Commissioner standards base interceptor capacity on 0.4 cubic feet per second flow per 1,000 equivalent population. The current SEMCOG Community Profile indicated that Oxford Township has approximately 2.88 persons per household. For design of sanitary sewer systems Oakland County and MDEQ require 3.2 persons per household be used. The hydraulic capacity of the system must pass flows based on the 3.2 persons per household.

$$\frac{6.73 \text{ cfs}}{0.4 \text{ cfs/1000 population}} = 16,825 \text{ population}$$

$$\frac{16,825 \text{ population}}{3.2 \text{ people/residence}} = 5258 \text{ residential equivalent units}$$

$$6.73 \text{ cfs} = 4,349,710 \text{ gallons per day}$$

$$\frac{4,349,710 \text{ gpd}}{3.2 \text{ people/residence} \times 100 \text{ gpcd}} = 13,593 \text{ REU's Max.}$$

$$\text{Peaking factor: } \frac{Q_{\max}}{Q_{\text{avg}}} = \frac{18 + \sqrt{16.825}}{4 + \sqrt{16.825}} = \frac{22.1}{8.1} = 2.7$$

$$\text{REU's available: } \frac{13,593}{2.7} = 5034$$

When determining residential equivalent units, priority should be given to the purchased sewer capacity and the anticipated peak flow. Therefore the residential equivalent units available to Oxford Township, based upon purchased capacity in the Paint Creek Interceptor, is approximately 5,034.

It must be remembered that purchased capacity is defined in terms of cubic feet per second and that the breakdown into residential equivalent units is for township usage. Oakland County will continue to monitor the sewage flows coming from Oxford Township by use of sewage flow meters.

A 1997 census showing 10,606 Oxford Township Residents is shown in Exhibit 2-2. Areas 1, 2, 3, 4, 5, 13 and ½ of Area 17 are currently outside the existing area serviced by the Oxford Township sanitary sewer system. The population of these 6½ areas is approximately 3,606 people. The SEMCOG community profile for Oxford Township, dated April 1999, indicated that the average household size in July 1997 was approximately 2.86 people per household. With a 1997 total estimated population of 10,606 people and 3,606 people outside the sanitary sewer district, approximately 7,000 residents are assumed to be within the sanitary sewer district. Based on the SEMCOG estimated population per household of 2.86 people, the 7,000 residents would equate to approximately 2447 REU's.

EXISTING CAPACITY ALLOCATION

As of April 1, 1998, Oxford Township had 2614 units connected to the sanitary sewer system. The units being billed as of April 1, 1998 are further broken down as follows:

1. Mobile Home Parks	473.4	units
2. Multiple (Apartments, Sr complex)	169.0	units
3. Commercial (un-metered)	167.6	units
4. Commercial (metered)	188.6	units
5. Schools	19.4	units
6. Residential	<u>1,596.0</u>	units
	2,614.0	units

Data from Oakland County indicated that as of February 15, 1994, Oxford Township had 1,811 REUs connected. This would indicate that there was an increase of 793 units for the 49 months or a rate of connection to the system of 16 per month or 192 new units per year. Based on this rate of connection, the expected number of units connected to the system in July 1997 would be approximately 2,470 REU's which closely corresponds to the expected number of REU's based on SEMCOG's projections. Later years indicate over 200 new units per year.

As the Village of Oxford also contributes sanitary sewage to the 27" Paint Creek Interceptor, their purchased capacity must also be considered in this report. Oxford Village purchased 3.20 cfs capacity and a population capacity of 8,000 people. Using the factor of 3.2 people per household, the Village of Oxford has 2500 residential equivalent units of capacity in the 27" Paint Creek Interceptor.

CHAPTER 4 - RECOMMENDATIONS

RESULTS OF ANALYSIS

The district, as amended on July, 1997, is shown on the following Exhibit 4-1. As there are areas of Oxford Township presently served with a sanitary sewer collection system that are outside this defined area and other areas that could be easily serviced by the existing 27" Paint Creek Interceptor, it is a recommendation of this report that the existing service area be amended by Township Board action to correct discrepancies. The zoning map as amended would serve as the official service area.

The recommended expansion area is also shown on Exhibit 4-1. The new district would include the following expansions.

1. An R-M parcel in the east half of Section 35. This increased area would be serviced by the existing 27" interceptor along M-24. This is a 25 acre parcel along M-24 on the east side of the road that is zoned RM and is prime for development and should be included in the district.
2. The north 1,200 feet of the NW 1/4 of Section 36. This parcel is occupied by the Oakland County Girls Home and has experienced trouble with their septic tank. The connection of this facility would be made near the existing Camp Oakland sewage pumping station on the north side of Drahner Road.
3. The remaining easterly portion of SE 1/4 of Section 25. This area is presently served by an existing 15" interceptor.
4. The existing golf course at Drahner & M-24 and all area directly south of the golf course to the south Township limits including Stonebridge Hills. This area would outlet directly to the 27" interceptor.
5. The existing 13 homes on the frontage on the west side of Sanders Road in Section 29. There is an existing 12" gravity sewage collection system along portions of Sanders Road and this area should be included in the service area. This is not to be construed as an approval to develop this frontage into a subdivision serviced by sanitary sewers.
6. The northeast 1/4 of the northwest 1/4 of Section 32. This area is currently developed as Little Pines Subdivision and currently has a sanitary sewage collection system connected to the 12" gravity sewer on Drahner Road. As the proposed additions to the service area are within the Paint Creek Interceptor service area, the update to the service area can be accomplished by Board action.

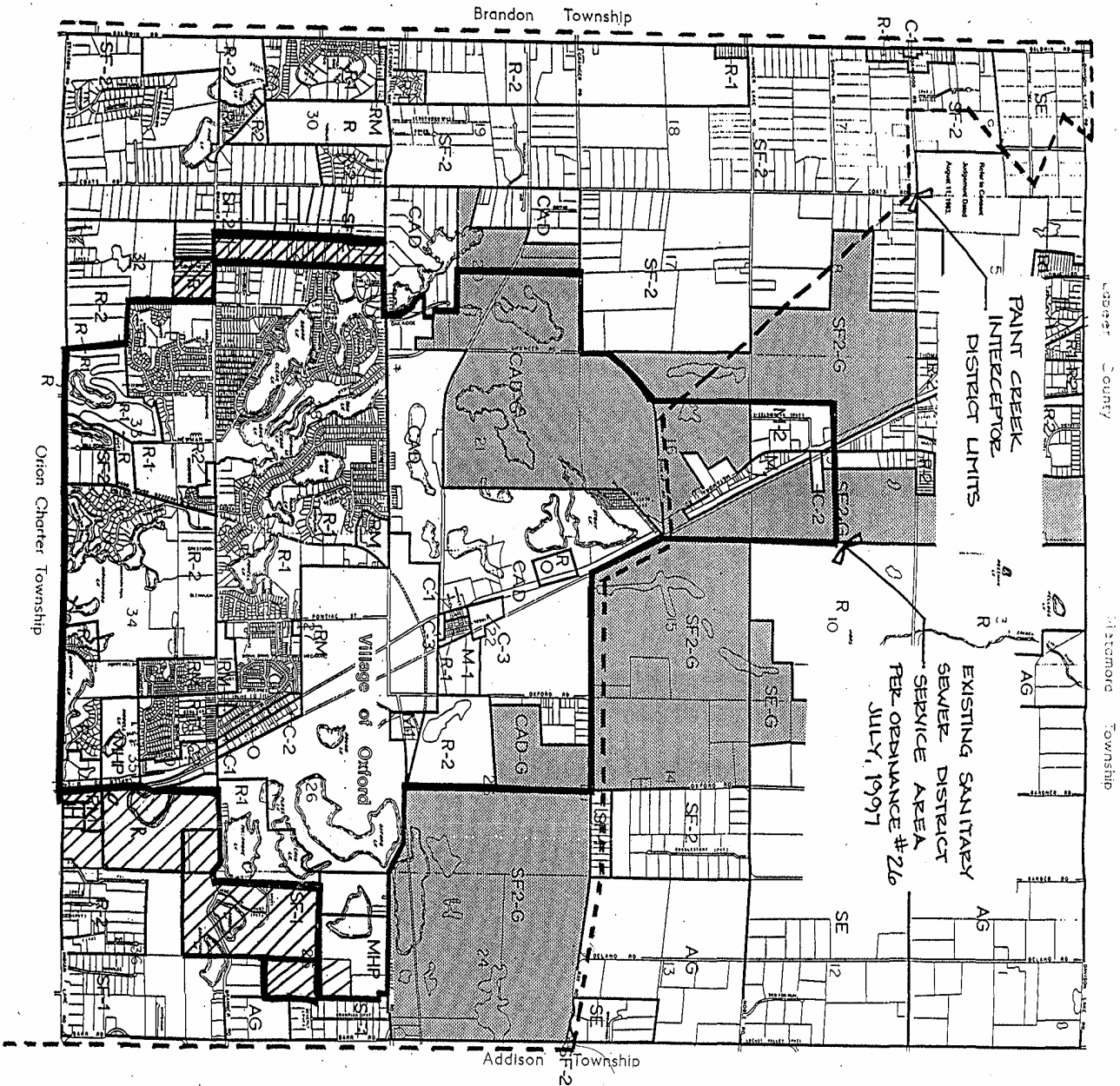


EXHIBIT 4-1

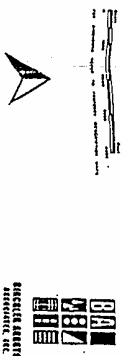
RECOMMENDED SANITARY SEWER EXPANSION AREA

ZONING DISTRICTS	Minimum Lot Size
(R-1) ONE FAMILY	12,000 sq ft
(R-2) ONE FAMILY With Sewer Without Sewer	25,000 sq ft 1 acre
(SF-1) SUBURBAN FARMS	25 acres
(SF-2) SUBURBAN FARMS	5 acres
(SE) SUBURBAN ESTATES	10 acres
(RM) MULTIPLE-FAMILY	see sec. 210
(MH) MOBILE HOME PARK	5 acres
(AG) AGRICULTURAL	20 acres
(G) GRAVEL & SAND OVERLAY	
(R) RECREATION	20 acres
(C-1) LOCAL BUSINESS	10,000 sq ft
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(CND) CENTRAL AREA DEVELOPMENT	



ZONING DISTRICTS MAP

OXFORD TOWNSHIP
OXFORD COUNTY, MICHIGAN
OXFORD TOWNSHIP PLANNING COMMISSION



OXFORD TOWNSHIP PLANNING COMMISSION

PAINT CREEK INTERCEPTOR SERVICE AREA

The sanitary sewage service area as defined by the agreement with Oakland County Drain Commissioner for the 27" Paint Creek Interceptor is considerably larger than the present or proposed service area. This area is also shown on Exhibit 4-1. The proposed one square mile area zoned light industrial in sections 9, 10, 15 and 16 is outside of the current service area for Paint Creek Interceptor. It is recommended that the Township Board negotiate with Oakland County Drain Commissioner to include this area of land within the Paint Creek Interceptor service area. This would require approval by the Township Board, participating communities and Oakland County. The service area has been expanded by previous negotiations so it is not anticipated that there would be disagreement on this issue. The prior district expansion was completed in September, 1973. After approval by Oakland County to revise the Paint Creek interceptor service area, the Township should alter ordinance 26 exhibit of service area, to include this one square mile in the Paint Creek Interceptor service area.

RECOMMENDATIONS

This report has shown some deficiencies in the Oxford Township Sanitary Sewer System. The following items deserve additional attention by the Township Board.

1. Oxford Township should attempt to acquire a minimum of 2.38 cfs from communities that are a party to the original capacity allocation. A legal determination should be made as to whether or not the 1979 purchase from Oxford Village included capacity in the Paint Creek interceptor. Additional units to provide a surplus for sanitary sewer expansion for Oxford Township should also be explored and purchased if Oxford Village or any other community to the agreement is willing to sell REU's. The Township original purchase price for one cfs including principal and interest is \$202,982, therefore $[(2.38 \text{ cfs})(\$202,983) = \$483,100]$.
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10. The Township should carefully review the charges for connection to the public sanitary sewers. It is anticipated that the fees should be increased to provide a source of revenue for large maintenance projects and for future capital improvement projects.
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